REMARKS

Claims 1-25 are currently pending. Claims 1, 5, 8, 12, and 20 have been amended for clarification only. Claims 21-25 have been added to enhance the scope of patent coverage of the claimed invention. The support for these amendments is found on page 9, lines 14-26, of the specification as filed. It is respectfully submitted that no new matter has been added.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abdelgany et al. (US 6,584,090), and further in view of Shalom et al. (US 6,166,601) and further in view of Abdelmonem et al. (US 6,622,028). The rejection is respectfully disagreed with, and is traversed below.

Abdelgany et al. disclose a circuit arrangement for CDMA/GSM operation. Applicant agrees with the Patent Office that Abdelgany et al. do not disclose "circuitry to compensate for the non-linearity of both transmit and receive filters". More specifically, and as is recited in for example claim1, this reference does not disclose a circuit arrangement wherein there is "circuitry, responsive to a currently selected RF channel, for compensating for a non-ideal operation of said RF filters over a full bandwidth range of said transmit and receive frequencies." Abdelgany et al describes an RF transceiver where both transmitter and receiver chains contain an RF filter. However, it does not do any kind of compensation to the signals, which is why Abdelgany et al. can merely be considered as a distant prior art describing feature that can be found from practically any RF transceiver.

The Patent Office then cites Shalom et al. for disclosing a transceiver that applies digital equalization to an RF amplifier to produce highly linear amplification, and refers to col. 3, lines 29-65. The Patent Office continues by stating that it would have been obvious "to implement digital equalization for both the transmit and receive amplifiers for the advantage of producing a highly linear response from the amplifiers".

It is first noted that Shalom et al. are concerned only with the transmit outputs of the multiple transceivers 22, 24, 26 shown in Figs. 1, 2 and 3, which are combined and applied to a single (common) base station transmitter 98. The total bandwidth of these signals is about 25 MHz (see col. 7, lines 17-31). As is stated in col. 3, lines 29-65, the goal is to digitally equalize the transceiver signals to correct for gain and phase distortions introduced by the power amplifier, as well as other elements of the feedforward amplifier. Shalom et al. describes a feedforward

amplifier, where RF signals from a plurality of sources are downcorverted, digitally equalized to compensate the amplifier impacts, upconverted and fed to the amplifier for amplification. It does NOT seem to compensate for filter induced distortion as responsive to RF channels, neither does it give any hints this would be needed. This invention only concentrates on how RF amplifier induced distortion can be minimized. Furthermore, this invention aims to minimize the interference to adjacent RF channels, whereas the present invention focuses in maximizing the signal-to-interference ratio of own signal. Shalom et al. does not discuss the receiver at all so it is not obvious to use compensation circuits to reception branch according to this invention. Shalom et al. only focuses in compensating amplifier response, not compensating RF filter non-idealities.

Based at least on the stated purposes of the Shalom et al. circuitry, i.e., to digitally equalize transceiver signals to correct for gain and phase distortions introduced by a transmitter power amplifier, as well as other elements of the feedforward amplifier, it is submitted that one skilled in the art would not find it obvious to implement digital equalization for **both** transmit and receive amplifiers. This is true at least for the reason that Shalom et al. are not seen to discuss in any detail the characteristics of the receiver part of the transceivers 22, 24, 26 shown in Figs. 1, 2 and 3, or the characteristics of any receiver amplifiers, or whether such receive amplifiers would benefit from any type of equalization. It is again noted that Shalom et al. desire to use digital equalization to correct for gain and phase distortions introduced by the **transmitter power amplifier, as well as other elements of the feedforward amplifier**. As such, it is clearly not admitted that one skilled in the art would have found it obvious "to implement digital equalization for <u>both</u> the transmit and receive amplifiers for the advantage of producing a highly linear response from the amplifiers", as stated by the Patent Office.

Still further, one may assume that any equalization that may be applied would be app lied within the bandwidth of the "transmitter power amplifier, as well as other elements of the feedforward amplifier", and not within any bandwidth of the (not described) receiver amplifiers.

Turning now to Abdelmonem et al., what is disclosed is simply a high temperature superconductor (HTS) filter 58 used in a base station receiver wherein

> "in some embodiments of the present invention, an equalizer **may be included to compensate for variances in group delay introduced by the HTS filter 58**

within the passband. Equalization may be desirable when the aforementioned HTS path is utilized in connection with certain wide bandwidth communication systems, such as W-CDMA."

Abdelmonem et al. describes a receiver front end and mentioning that an equalizer could be added to compensate for variances in group delay caused by the filter in the front end. The passage cited by the Patent Office teaches that the compensation is done at RF frequency with RF components. It does not give any hint that Base Band signal would be used to compensate for RF-filter caused group delay. Also, It does not give any hint that a RF filter response compensation would be done according to the used RF channel.

Thus, the Abdelgany et al. reference teaches a transceiver having transmit and receive filters, where in the Fig. 4 embodiment cited by the Patent Office:

> "..the RF filters in the CDMA transmit and receive paths of CDMA-900 and CSM-900 communication transceiver 180 have different passbands as compared to those in FIG. 3. First CDMA transmit RF filter-74, second CDMA transmit RF filter 78, and duplexer 82 have transmit passbands encompassing the CDMA-900 transmit band of about 824-849 MHZ. Duplexer 82 and CDMA receive RF image reject filter 92 have receive passbands approximately equivalent to the CDMA-900 receive band of about 869-894 MHZ" (col. 13, lines 5-14),

whereas Shalom et al. teach digital equalization to correct for gain and phase distortions introduced by the **transmitter power amplifier, as well as other elements of the feedforward amplifier**, and Abdelmonem et al. teach a HTS filter 58 used in a base station receiver, where an equalizer **may be included to compensate for variances in group delay introduced by the HTS filter 58 within the passband.**

The proposed combination of Shalom et al. and Abdelmonem et al. with Abdelgany et al. thus clearly does not suggest or disclose, as in claim 1, "**circuitry, <u>responsive to a currently selected RF channel</u>, for compensating for a non-ideal operation of said RF filters over a full bandwidth range of said transmit and receive frequencies**", or as in claim 8, a method to operate a mobile station where "**<u>responsive to a currently selected RF channel</u>, compensating for a non-ideal operation of said RF filters over a full bandwidth range of said transmit and receive frequencies**".

In response to the argument made on page 2, first and second paragraphs, of the advisory

action of August 24, 2005, none of the references teach equalization for a signal to be transmitted.

Furthermore, as to claims 1-14, none of the cited references appear to disclose or suggest "compensating a signal to be transmitted," a limitation found in these claims.

In that the independent claims 1, 11, and 15 are clearly patentable over the Patent Office's proposed combination of references, then dependent claims 2-7, 9-14, and 16-20 are also patentable at least for this reason alone.

The Patent Office is respectfully requested to reconsider and remove the rejections of claims 1-20 under 35 U.S.C. 103(a) based on the proposed combination of Abdelgany et al., Shalom et al. and Abdelmonem et al., and to allow claims 1-20.

Claim 2 recites "said compensating circuitry compensates for RF filter operation in a transmit RF channel that is nearest to said band of receive RF frequencies." Claim 3 recites "said compensating circuitry compensates for RF filter operation in a receive RF channel that is nearest to said band of transmit RF frequencies." Claim 9 recites "said step of compensating compensates for RF filter operation in a transmit RF channel that is nearest to said band of receive RF frequencies." Claim 10 recites " said step of compensating compensates for RF filter operation in a receive RF channel that is nearest to said band of transmit RF frequencies." Applicant's invention allow selectively aiding in the rejection of the TX frequency band at the TX/RX band edge, thereby improving the operation of the mobile station (page 9, lines 9-11). Compensation can be achieved by predistorting the signal to be transmitted in order to maintain the desired accuracy of the modulation (page 9, lines 15-17). None of the cited references appear concerned with differences in response at the TX/RX band edge. Thus, claims 2, 3, 9, and 10 are allowable for this additional reason.

Regarding the remarks, an equalizer may affect a frequency response of a given channel but not a full bandwidth range of said transmit and receive frequencies, as found in the claims. An RF amplifier that merely changes the magnitude of an RF signal would not be an RF filter. The problem of the prior art concerns the reduced RF filter responses at the first and last channels with respect to the other channels. Applicant's invention compensates for RF operation in a transmit RF channel that is nearest to the band of receive RF frequencies and/ or compensates for RF filter operation in a receive RF channel that is nearest to the band of transmit RF frequencies

(page 3, lines 7-10). None of the cited references appear to disclose or fairly suggest a solution to the problem identified and claimed by Applicant. When combining the teachings of the cited references, one of ordinary skill would have a transceiver where both the transmitter and receiver chains include an RF filter, a transmitter signal compensated for the amplifier unlinearities, and the receiver front end containing an equalizer compensating the distortion in the RF signal, not in the base band signal.

The Patent Office is respectfully requested to reconsider and remove the rejections of the claims under 35 U.S.C. 103(a) based on Abdelgany, in view of Shalom and further in view of Abdelmonem, and to allow all of the pending claims 1-25 as now presented for examination. An early notification of the allowability of claims 1-25 is earnestly solicited.

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